

# Slavomír Hanzely

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## EDUCATION

### **King Abdullah University of Science and Technology, Saudi Arabia**

Applied Mathematics and Computational Sciences, Ph.D. 2020 – present  
I work on Optimization for Machine Learning (Stochastic Optimization, Distributed Optimization, Federated Learning); under the supervision of [Peter Richtárik](#).  
I am organizing research group seminar.

### **King Abdullah University of Science and Technology, Saudi Arabia**

Applied Mathematics and Computational Sciences, MSc. 2019 – 2020  
Relevant courses that I passed: Special Topics in Data Sciences, Special Topics in Machine Learning, Special Topics in Federated Learning, Combinatorial Machine Learning, Probability and Statistics, Advanced Probability, Stochastic Processes, Contemporary Topics in Signal Processing.

### **Comenius University, Slovakia, Computer Science, BSc.**

2016 – 2019  
I enrolled superfluous amount of courses – only in 1st year I got 95 credits (recommended amount is 60), including master's courses. Until graduation, I passed 7 Master courses<sup>1</sup> and I unofficially attended (due to exceeding the maximal number of credits) 8 extra courses<sup>2</sup>.  
Passed all BSc. finals with best grades.

## RESEARCH

- Optimization Algorithms for Model-Agnostic Meta-Learning and Personalized Federated Learning, K. Mishchenko, S. Hanzely, P. Richtárik, 2021
- ZeroSARAH: Efficient Nonconvex Finite-Sum Optimization with Zero Full Gradient Computation, Z. Li, S. Hanzely and P. Richtárik, 2021, [arXiv](#)
- Lower Bounds and Optimal Algorithms for Personalized Federated Learning, F. Hanzely, S. Hanzely, S. Horváth and P. Richtárik, [NeurIPS 2020](#), talk link [here](#)
- Adaptive Learning of the Optimal Mini-Batch Size of SGD, M. Alfarra, S. Hanzely, A. Albasyoni, B. Ghanem and P. Richtárik, [NeurIPS 2020 workshop](#)

## AWARDS

### **King Abdullah University of Science and Technology**

- MSc. scholarship of USD 70,000/year
- Ph.D. scholarship of USD 75,000/year
- Dean's Award (for two best incoming students in the Ph.D. program) of USD 6,000/year

### [Vojtěch Jarník International Mathematical Competition](#)

2017: **8-10th place** in category 1 (first place within Czech and Slovak contestants)

### [Mathematical Olympiad](#)

2016: **3rd place** in the national round (Slovakia), category A

Participation at the **International Mathematical Olympiad (IMO)**

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<sup>1</sup>Cryptology, Programming Languages, Probabilistic Methods, Advanced Effective Algorithms, Mathematical Analysis (3), Unstructured Talks on Structures: Chapters in Mathematics for Computer Scientists (1, 2)

<sup>2</sup>Category Theory, Graph Theory, Combinatorial Structures, Markov Processes, Probability Theory, Selected Topics in Data Structures, Selected Topics in Algebra, Matrix Calculus

2015: 18–20th place (**bronze medal**) at the Middle European Mathematical Olympiad (MEMO)

## WORK EXPERIENCE

**Mohamed bin Zayed University of Artificial Intelligence** Feb 2022 – Apr 2022  
Research assistant in the research group of [Martin Takáč](#).

**Nozdormu** (crypto trading company) Jun 2020 – Aug 2020  
Software engineering/research internship. My goal was to analyze, model and design practical algorithms to optimize resource allocation of the company and implement the developed methods under various constraints.

**Mathematical Olympiad** 2017 – 2019

- marking problems at the Slovak national round of the Mathematical Olympiad (3 times)
- organizing a day at the national selection camp for the International Mathematical Olympiad – creating the problem set and marking the solutions (3 times)
- preparing new format of selection camp for the International Mathematical Olympiad and creating problem sets for the whole camp (team of 4 people)

**Trojsten** – volunteering 2016 – 2019

- marking solutions of the competitions for talented high school students (approximately 600 solutions, 150 hours of work)
- organizing camps for talented high school students in Mathematics and Computer Science - I organized 15 camps (4 of them as the head organizer)
- delivering 36 lectures (including a half-day lecture at iKS camp)

## SKILLS

Programming

- advanced in Python, PyTorch, Julia, Java, C/C++
- experience with Matlab, R, Haskell, Assembler

Organization

- co-organized 20 camps (4 as a head organizer)
- co-organized 14 competitions (3 as a head organizer)

## HOBBIES

Sport

- ultimate frisbee
  - representing Slovak national team on the tournaments: European Youth Ultimate Championship and European Youth Ultimate Cup
  - playing for the university team on international tournaments: Middle East and North Africa Club Championships 2019, Middle East and North Africa Club Championships 2021
- rock climbing
- in the past: ice-hockey, floorball, karate

Outdoor puzzle races

- participated on 26 puzzle races (including 3 overnight races in winter)